

1) Output function, 2) Optical axis, 3) Light-on/dark-on, 4) Sensitivity



**Basic features**

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Principle of operation	Fork sensor
Series	A
Style	Fork Straight connection

**Electrical connection**

Connection	Connector, M8x1-Male, 3-pin
Contact, surface protection	Gold plated
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

**Display/Operation**

Adjuster	Potentiometer 270° (2x)
Display	Output function- LED yellow
Setting	Sensitivity Light-on/dark-on

Photoelectric Sensors  
**BGL 50A-003-S49**  
Order Code: BGL001M

**BALLUFF**

### Electrical data

Load capacitance max. at Ue	0.5 µF
No-load current I <sub>o</sub> max. at Ue	20 mA
Operating voltage U <sub>b</sub>	10...30 VDC
Rated insulation voltage U <sub>i</sub>	75 V DC
Rated operating current I <sub>e</sub>	200 mA
Rated operating voltage U <sub>e</sub> DC	24 V
Ready delay t <sub>v</sub> max.	200 ms
Residual current I <sub>r</sub> max.	50 µA
Ripple max. (% of U <sub>e</sub> )	10 %
Switching frequency	5000 Hz
Turn-off delay t <sub>off</sub> max.	0.1 ms
Turn-on delay t <sub>on</sub> max.	0.1 ms
Utilization category	DC -13
Voltage drop U <sub>d</sub> max. at I <sub>e</sub>	3 V

### Environmental conditions

Ambient temperature	-10...60 °C
EN 60068-2-27, Shock	Half-sinus, 30 g <sub>n</sub> , 11 ms, 3x6
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
IP rating	IP67

### Functional safety

MTTF (40 °C)	316 a
--------------	-------

### Interface

Switching output	PNP normally open/normally closed (NO/NC)
------------------	---

### Remarks

Order accessories separately.

For additional information, refer to user's guide.

Factory default setting for switching output: Normally open.

Reference object (target): Steel plate, 50 x 50, thickness 0.5 mm, lateral approach.

The sensor is functional again after the overload has been eliminated.

Only for applications per NFPA 79 (machines with a supply voltage of maximum 600 V). Use an R/C (CYJV2) cable with suitable properties for attaching the device.

For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

### Material

Housing material	Zinc, Die casting, Painted
Material sensing surface	Glass
Surface protection	Painted

### Mechanical data

Dimension	10 x 70 x 88 mm
Fork opening	50 mm
Mounting part	Screw M4

### Optical features

Ambient light max.	10000 Lux
Average power P <sub>o</sub> max.	390 µW
Beam characteristic	Collimated
Laser class per IEC 60825-1	1
Light spot size	Ø 0.3 mm Light exit
Light type	Laser red light
Principle of optical operation	Through-beam sensor
Smallest part typ.	0.08 mm
Switching function, optical	dark-on/light-on
Wave length	655 nm

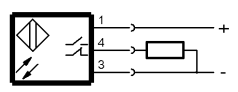
### Range/Distance

Hysteresis H max.	0.025 mm
Repeat accuracy lateral max.	10 µm

## Connector Drawings



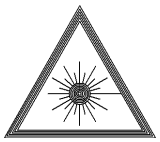
## Wiring Diagrams



## Opto Symbols



## Warning Symbols



LASER CLASS 1 per IEC 60825-1